



UNIVERSITI PUTRA MALAYSIA

**THE DETERMINANTS OF
FOREIGN DIRECT INVESTMENT IN ASEAN FIVE**

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**THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN ASEAN
FIVE**

By

SONG KUOK THONG

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requirement for the degree of Master of Science

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May 2002

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Foreign Direct Investment has played an important role in the development of the ASEAN-5, mainly Malaysia, Singapore, Indonesia, Thailand and the Philippines for the past decade. Even though there is a growing knowledge of the role that FDI can play in stimulating economic growth and development, there remains a tremendous diversity in approaches of countries in their policies towards FDI, as well as a lingering skepticism in certain spheres as to the inevitability or universality of the benefits from FDI. In order to gain from FDI with little negative impact on the host country's economy, the host countries may implement a variety of policies on the MNEs.

A test of cointegration between FDI and its determinants in ASEAN-5 between 1969 to 1999 was conducted using Pooled-Cross-Section and Time Series data in determining the common determinants shared among the ASEAN-5. The results show that GDP, employment rate, exchange rate, trade, and capital are highly correlated with FDI for the ASEAN countries. The Johansen and Juselius (JJ) procedure was employed to test the long-run causal relationship among the determinants of FDI in the five ASEAN countries. The results from the above test show that the series for Malaysia, Indonesia and the Philippines are cointegrated and share a long-run

of Thailand shows only three of the independent variables in the series are cointegrated and share a long-run equilibrium relationship. Singapore however could not fit into the series introduced in this study. This may be due to the fact that Singapore has a high quality and quantity of skilled labors compared to the rest of the ASEAN countries as well as a well-developed economic growth than the rest of the ASEAN countries.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**PEMBOLEHUBAH-PEMBOLEHUBAH UNTUK PELABURAN LUAR
NEGARA DI ASEAN LIMA**

Oleh

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Pelaburan Langsung Asing (PLA) telah memainkan peranan yang penting dalam pembangunan negara ASEAN-5 yang terdiri daripada Malaysia, Singapura, Indonesia, Thailand dan Filipina, dalam dua dekad yang lepas. Walaupun terdapat perkembangan pengetahuan dalam kepentingan Pelaburan Langsung Asing ke atas perkembangan dan pembangunan ekonomi negara, pembuat polisi negara kluatir Pelaburan Langsung Asing akan menyebabkan pelabur tempatan tersingkir keluar daripada persaingan. Demi menikmati kelebihan daripada Pelaburan Langsung Asing dengan impak negatif yang minima ke atas ekonomi negara, negara tuan rumah perlu memperkenalkan pelbagai polisi yang sesuai ke atas pelabur asing.

Ujian kointegrasi antara Pelaburan Langsung Asing dan angkubah penentu PLA di ASEAN-5 antara tahun 1969 hingga 1999 telah dijalankan dengan menggunakan ujian Perkumpulan-Persimpangan dan Siri Jangka Masa. Keputusan menunjukkan GDP, tenaga buruh, pertukaran asing dan kapital adalah berkointegrasi dengan Pelaburan Langsung Asing. Ujian Johansen dan Juselius (JJ) telah dijalankan untuk mencari hubungan jangka panjang antara Pelaburan Langsung Asing dengan pembolehubah-pembolehubahnya untuk negara ASEAN-5. Keputusan daripada ujian di atas

menunjukkan bahawa siri model pelaburan asing untuk negara Malaysia, Indonesia, dan Filipina adalah berkointegrasi dan mempunyai hubungan keseimbangan dalam jangka panjang. Bagi Thailand, keputusan menunjukkan bahawa hanya terdapat tiga pembolehubah tetap yang berkointegrasi dan mempunyai hubungan keseimbangan jangka panjang. Siri data yang digunakan dalam ujian ini tidak dapat disesuaikan ke atas negara Singapura. Ini mungkin disebabkan oleh kerana Singapura mempunyai jumlah buruh mahir yang berkualiti dan berkuantiti tinggi serta perkembangan ekonomi yang mantap berbanding dengan negara-negara ASEAN yang lain.

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I certify that an Examination Committee met on 5th June 2002 to conduct the final examination of Song Kuok Thong on his Master of Science thesis entitled "The Determinants of Foreign Direct Investment in ASEAN Five" in accordance with Universiti Pertanian Malaysia (Higher Degree) Act 1980 and Universiti Pertanian Malaysia (Higher Degree) Regulation 1981. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

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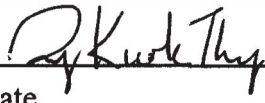


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DECLARATION FORM

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UPM or other institutions.



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CHAPTER 1

INTRODUCTION

Foreign direct investment (FDI) has been playing an increasingly important role especially since the last two decades in many economies of the world. FDI has significantly contributed into the industrialization and the development of manufacturing sector in developing the ASEAN countries. The strong growth in the ASEAN region during the 80's and early 90's was partly attributed to the FDI activities in the ASEAN countries. Investment in the ASEAN countries rose from 29 percent of GDP in 1983-90 to 33 percent of GDP in 1991-1996 and from 28 percent of GDP to 32 percent of GDP over the same period for the four newly industrialized ASEAN economies.

The growing recognition of the importance of FDI among the developing Asian countries is because of a number of factors. Firstly, in 1970's most of the developing Asian countries relied heavily on commercial bank borrowing from the international market to finance their development programs. However in the late 1970's, the increase of interest rate in the world economy caused borrowing from banks to become more expensive. Consequently, the debt crisis dried up the flow of bank credit to the developing countries.

In 1980's, most developing Asian countries turned to FDI in equity form, since equity financing requires payments only to be made only when the investment earns profit. Besides, the host country can regulate payments under FDI and only a portion of these FDI can be typically repatriated in a given period.

Secondly, policymakers are now more interested in attracting FDI as foreign firms bring in capital for investment (cheaper, more reliable access to capital, in form of equity or foreign loans), technology, and managerial expertise.

Even though there is a growing knowledge of the role that FDI can play in stimulating economic growth and development, there remains a tremendous diversity in approaches of countries in their policies towards FDI, as well as a lingering skepticism in certain spheres as to the inevitability or universality of the benefits from FDI.

Some policymakers fear that FDI might “crowd-out” domestic investment, which means that multinational enterprises (MNEs) competing in the products and financial market, might displace domestic firms. This in turn would drain away profits from local firms and weaken the host country economy by repatriating their profits home. Policymakers fear that foreigners will control too much of the economy or certain strategic sectors of it such as power supply, transportation, supercomputers, national defense and many others.

Besides, policymakers also fear that investors will collect their earnings without the transfer of technology, since most MNEs do not normally transfer their highest technology to their subsidiaries. Even though MNEs create jobs in the host countries, most of the jobs are not high-skilled jobs which the host countries would prefer. It is also common for the MNEs to transfer obsolete technology, literally bringing over old machinery from idle factories back home. To gain as much as possible from MNEs, the host countries may implement a variety of policies targeted on MNEs directly. However, there is no general formula to establish which are the most effective policies.

Andersson (1991) indicates that investment policies could be thought in terms of two broad categories, such as taxation and nationalization. The former is policies, which stimulate certain kinds of behavior on the part of MNEs, such as regulations, tax incentives and subsidies. The latter is policies, which interfere with the ownership and control of MNEs, such as joint ventures, licensing agreements and, in extreme cases, complete takeover by the host country.

Over the years there has been systematic and swift policy shift among host countries in the developing countries toward foreign investment. This shift in policy shows that developing countries are trying their best to attract foreign direct investment without any negative spillover effect, which is tapping into the resources of the host countries without any transfer of technology. However, these countries encourage a positive spillover. These spillovers are the one that benefits the host countries such as spillovers on technology to the host countries, employment opportunities to the locals, and supporting of local industries.

According to Andrea Fosfuri et. al. (2001) spillovers can be in three types of forms. Firstly, there may exist a backward and forward linkage between foreign affiliates and local firms (Lall, 1980; Rodriguez-Clare, 1996). Secondly, foreign affiliates may increase local firms' productivity through "demonstration effect". Mansfield and Romeo (1980) and Blomstrom (1986) showed the "demonstration effect" by giving an example that domestic industries imitate technology innovation introduced by MNEs. Finally, spillovers arise when subsidiaries of foreign firms train local employees who later join local firms or set up their own companies, bringing with them all (or part of) the technologies, marketing, and managerial knowledge that they had acquired.

The distribution of foreign investment in Asian countries in the 1990's is shown in Table 1.1. The five Asian countries seem to practice an open door policy and market-oriented economic management. The open door policy practiced by these countries had attracted foreign investors to this region.

In Table 1.1, Singapore shows the highest amount of foreign direct investment compared to other Asian countries. Singapore's foreign direct investment increased from 1990 to 1991 (18.81%) but had a sharp fall in 1992 (13.25%). The pace took up again in 1993 (US \$2534.410 million) and 1994 (US\$ 3973.223 million) before another sharp fall occurred in 1995 to US\$ 924.862 million. For Malaysia, the amount of foreign direct investment in 1990 shows an increment from US\$ 2332.865 million to US\$ 5183.731 million in 1992, or an increase of 55.0%. In 1993, the Malaysian foreign direct investment showed a fall of US\$178.098 million in 1993 and continued falling to US\$ 889.13 million in 1994. But the pace took up again in 1995 (US\$4172.083 million).

Thailand shows a constant fall from 1990 to 1994, which was from US\$ 2387.422 million to US\$ 899.167 million that is a decreased of 62.34%. It is not until 1995 that Thailand's foreign direct investment started to boom to US\$ 1167.229 million becoming the third highest recipient of FDI. The Indonesian case shows a constant increased of foreign direct investment from 1990 to 1995, which is from US\$ 591.521 million to US\$1932.105 million, an increase of 69.38%. For the Philippines, the foreign direct investment shows a constant increased from US\$ 18.857 million in 1990 to US\$ 52.789 million in 1994 that is an increase of 64.28%. Unfortunately, the amount of investment in the Philippines began to fall slightly in 1995 as much as US\$ 0.87 million.

Table 1.1 also shows the distribution of FDI during the Asian economic crisis from beginning of 1997 to 2000. Malaysia shows the highest amount of FDI inflow in the year 1996 as much as US\$5078.703 million. Unfortunately it dropped to US\$4149.795 million in the beginning of the Asian crisis in 1997. This shows a decreased of 18.29% from 1996 to 1997. During the peak of the Asian crisis in 1998, the amounts of FDI began to have a sharp decline as much as US\$1915.584 million. The fall in FDI continued in 1999 showing a sharp fall of US\$66.211 million

In Thailand however, the Asian economic crisis seems not to effect foreign direct investors to the country despite the fact that the currency crisis originated from Thailand. US\$1444.039 million was reported in 1996 and the number increased in the beginning of the crisis in 1997 to US\$2586.388 million or an increase of 44.17%. By 1998, which is the peak of the Asian economic crisis, the number of foreign direct investment in Thailand exceeded that of Malaysia as much as US\$2644.558 million. By the year 1999, the number of FDI into Thailand has increased up to US\$6078 million.

Indonesia seems to have the highest effect of the Asian economic crisis. In 1996, the amount of FDI was reported to be worth US\$2938.923 million. However in 1997, the number of foreign investment dwindled to US\$968.635 million, which is nearly 33% of the amount collected in 1996. In 1998, the number of FDI was reported to be negative US\$46.689 million. These losses could be due to the foreign investors pulling out of Indonesia because of political instability. By 1999, the number of FDI inflows into Indonesia continues to decrease as much as US\$4.529 million.

Singapore and the Philippine show a mixed reaction of FDI towards the Asian economic crisis. For Singapore, the number of FDI was US\$1609.319 million and by

1997 the amount increased to US\$4640.414 million which was at the beginning of the Asian economic crisis. This shows an increase of 65.32% between 1996 and 1997. This amount then declined slightly to US\$4183.809 million in 1998 or during the peak of the crisis and bounced back in 1999 to US\$6984 million.

For the Philippine, in 1996, the amount of FDI was reported to be US\$50.898 million. In the beginning of the Asian economic crisis, the amount of FDI drops to US\$27.842 million, which is about 55% decrease in 1996. However, during the peak of the Asian economic crisis in 1998, the amount of FDI increases as much as US\$27.842 million. In 1999, the amount of FDI inflows increases as much as US\$1.63 million. From the above statement, it is clearly shown that foreign direct investors have high confidence in countries such as Thailand and the Philippines. However, this paper will not discuss on the causes of such a trend or phenomenon.

Table 1.2 shows the rate of employment in the selected countries from 1990 to 1999. The rate of employment is in percentage and is collected by calculating the percentage of number of employees working in the country over the total number of population of the country.

Singapore measured the highest amount of employment rate among the five Asian countries. In 1990, the number of employment rate is 54.31%, which increased to 55.17% in 1991. It continued to increase until 1993 when the employment rate showed a slight drop from 55.93 in 1992 to 55.40 in 1993. However, the employment rate picked up again from 1994 (56.29%) to 1995 (56.99%). During the Asian economic crisis however, Singapore did not show any adverse effect on the employment rate. The

employment rate continued to increase from 57.42% in 1996 to 59.10% in 1998, which was the peak of the crisis. However the employment rate decreases to 58.61% by 1999.

Thailand also showed a very high amount of employment rate in the country. In 1990, Thailand spotted an amount of 50.98% of employment rate. This however, declined in 1991 to 50.88% and continued to decline until 1992, which reported the amount of 52.29%. In 1993, the pace picks up again to 52.32%. However there is a decrease of 1.73% in 1994 and continues to increase again to 51.93% in 1995. The Asian economic crisis however did affect Thailand employment rate. This can be seen in table 1.2. In 1996, the amount of employment rate is 51.91%. During the beginning of the crisis, the employment rate does not show any negative effect, instead it increased to 51.97%. However, during the peak of the crisis, the employment rate showed a fall to 38.50% in 1998 and continued to fall to 37.75% in 1999.

In 1990, the employment rate in Malaysia was 37.64% which increased to 37.90% in 1991. But in 1992 the employment rate shows a drop to 37.82%. However, beginning 1993, the employment rate in Malaysia shows a sharp increase to 38.51% and continued to increase in 1995 to 38.78%. During the Asian economic crisis (Table 1.2), Malaysia experienced an increase in employment rate of 39.76% in 1996 to 40.64% in 1997, which was the beginning of the Asian currency crisis. However, during the peak of the crisis, in 1998, the employment rate shows a sharp drop to 38.50%. In 1999, the employment rate increased back again to 39.69%.

In Table 1.2, Indonesia shows that the employment rate is 42.30% in 1990 but decreased to 41.77% in 1991. The rate then started to increase again in 1992 to 42.21% but again fall in 1993 to 41.87%. The same pattern could be seen in 1994 and 1995

where in 1994 the employment rate increases to 42.68% and shows a drop in 1995 to 41.00%. In Table 1.2, the employment rate in Indonesia in 1996 increases to 43.24% and by the beginning of the Asian economic crisis, in 1997, the rate increases to 43.28% which is an increase of 0.01%. However by 1998, which is the peak of the crisis, the employment rate began to fall again to 43.23%. By 1999, the employment rate decreases to 42.92%.

The Philippines also shows the same mix reaction in the employment rate between 1990 to 1995, as in Indonesia. In Table 1.2, the Philippines indicates an amount of 36.94% of employment rate in 1990 but then dropped as much as 1.14% in 1991. In 1992, the employment rate began to pick up again to 36.46%, but again shows a drop in 1993 to 36.39%. This trend continues in 1994 where the employment rate shows the amount of 36.28%. However, an increase of 0.40% was detected in 1995 and continued in 1996 to 37.76% (Table 1.2). As shown in Table 1.2, the Philippine experienced a decline in the employment rate from 37.76% to 37.75% in 1997 and continued to decline to 37.13% in 1998. However the employment rate bounced back in 1999 to 37.74%.

Table 1.1: Foreign Direct Investment Inflows in Five Asian Countries, 1990-99

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Indonesia	591.521	758.390	874.250	959.521	975.520	1932.105	2638.923	968.635	-46.689	-50.984
Philippine	18.857	19.850	26.897	31.193	52.789	51.919	50.898	27.842	40.759	42.389
Thailand	2387.422	1847.451	1977.559	1438.577	899.167	1167.229	1444.039	2586.388	5230.946	6078.000
Malaysia	2332.865	3998.836	5183.731	5005.633	4116.503	4172.083	5078.703	4149.795	2234.211	2168.000
Singapore	3541.021	4361.137	887.354	2534.410	3973.223	924.862	1609.319	4640.414	4183.809	6984.000

Note: In Million US Dollars.

Source: SEACEN Financial Statistics, July 2000

Table 1.2: Percentage of Employees Working Over the Total Number of Population in the Five Asian Countries in 1990 to 1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Indonesia	42.30	41.77	42.21	41.87	42.68	41.00	43.24	43.28	43.23	42.92
Philippines	36.94	35.80	36.46	36.39	36.28	36.68	37.76	37.75	37.13	37.74
Thailand	50.98	50.88	52.29	52.32	50.59	51.93	51.91	51.97	50.08	49.83
Malaysia	37.64	37.90	37.82	38.51	38.77	38.78	39.76	40.64	38.50	38.69
Singapore	54.31	55.17	55.93	55.40	56.29	56.99	57.42	58.98	59.10	58.61

Note: Figures in % and is collected by calculating the percentage number of employees working in the country over the number of population of the country.

Source: SEACEN Financial Statistics, July 2000

1.1 Statement of Problem

Even though there have been significant number of studies on FDI, few have discussed the contribution of FDI on growth beyond the qualitative assertions. As noted by Fan and Paul (2000), FDI enhance growth directly (such as capital formation) and indirectly (such as employment and exports). However it is intrinsically difficult to quantitatively measure the contribution of FDI on the growth process especially of the indirect effects of FDI. This study will discuss the quantifying contribution of FDI to growth, directly and indirectly, within the growth accounting framework. The study focuses on the five founding members of ASEAN.

There are also various studies on FDI and its determinants in the industrialized countries. Goldberg (1972) and Lunn (1980) for example, had tested the determinants of FDI among developed countries, which is between US direct investment and the EEC. Culem (1988) also tested the determinants of FDI by investigating countries such as Germany, France, UK, Netherlands and Belgium. However, these studies could not confirm whether FDI inflows depend on the stages of the economic development. The ASEAN-5, which consists of Singapore, Malaysia, Indonesia, Thailand and the Philippines, have different stages of economic background, are best to be tested in order to analyze the problem above. Singapore recently had shown a great improvement in its development, far better then the rest of its counterparts. Whereas Malaysia, Indonesia, Thailand and the Philippines are still developing its industrial development.

With Malaysia's relative high wage rates, continued industrialization would depend on the success in technological upgrading and diversification from electronics and textiles. Thailand, Indonesia and the Philippines also face the need to expand their